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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/377,667	08/19/1999	HIROMU MUKAI	15162/01020	8179
24367	7590	04/29/2005	EXAMINER	
SIDLEY AUSTIN BROWN & WOOD LLP			GENCO, BRIAN C	
717 NORTH HARWOOD			ART UNIT	
SUITE 3400			PAPER NUMBER	
DALLAS, TX 75201			2615	

DATE MAILED: 04/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/377,667	Applicant(s) MUKAI, HIROMU	
	Examiner Brian C Genco	Art Unit 2615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 January 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) 4-7,9-14,16 and 19-22 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3,8-10,15,17 and 18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Applicant's election without traverse of Species I in the reply filed on January 18, 2005 is acknowledged. Examiner notes that newly added claim 17 is generic.

Applicant's arguments filed August 2, 2004 with respect to claims 1-14 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3, 8, 10, 15, 17, and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by (JP 08-330557 to Uchiya).

In regards to claim 1 Uchiya discloses an image pickup device comprising:

an image sensor having rectangular light receiving portions arranged in a matrix, and microlenses disposed in correspondence with said light receiving portions, said light receiving portions and said microlenses being formed integrally with each other (e.g., Figs. 1 and 5); and

an image input optical system for forming an image on said image sensor, said image input optical system including a diaphragm (e.g., the diaphragm created by light shield element 12 as illustrated in Fig. 5);

wherein the diaphragm has a shape in a vertical direction that coincides with a shape of the light receiving portions of the image sensor, said diaphragm restricting light along a

Art Unit: 2615

horizontal direction to prevent the light from being incident outside the light receiving portions of the image sensor (e.g., Fig. 5).

In regards to claim 3 see paragraph 0002 of the machine translation.

In regards to claim 8 see Examiners notes on the rejection of claim 1. Note that the microlens 14 is at least one lens. Further note that each of the transparent layers of the image sensor are also a lens.

In regards to claim 10 see paragraph 0002 of the machine translation.

In regards to claims 15, 17, and 18 see Examiners notes on the rejections above.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-3, 8-10, 15, 17, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over (USPN 5,654,565 to Hokari) in view of (USPN 5,121,213 to Nishioka).

In regards to claim 1 Hokari discloses an image pickup device comprising:

an image sensor having rectangular light receiving portions arranged in a matrix, and microlenses disposed in correspondence with said light receiving portions, said light receiving portions and said microlenses being formed integrally with each other (e.g., Figs. 1-9).

Hokari does not disclose an image input optical system including a diaphragm wherein the diaphragm has a shape in a vertical direction that coincides with a shape of the light receiving portions of the image sensor, said diaphragm restricting light along a horizontal direction to prevent the light from being incident outside the light receiving portions of the image sensor.

Art Unit: 2615

Nishioka discloses an image input optical system including a diaphragm (e.g., Figs. 25A and 25B) wherein the diaphragm has a shape in a vertical direction that coincides with a shape of the light receiving portions of the image sensor (e.g., Figs. 25A and 25B; column 8, lines 41-54; wherein if the stop is in the same shape as the pixels a depth of field is advantageously obtained to be most sufficient).

Therefore it would have been obvious to one skilled in the art at the time of the invention to add the input optical system of Nishioka to Hokari's invention in order to advantageously obtain the depth of field to be most sufficient. Examiner notes that Nishioka discloses that the lateral extension of the stop be along the scanning direction of the image sensor. As such, the lateral extension of the stop would be oriented in the vertical direction of Hokari's image sensor illustrated in Fig. 1 and implicit to the combination of elements would restrict light along a horizontal direction to prevent the light from being incident outside the light receiving portions of the image sensor.

In regards to claim 2 Hokari in view of Nishioka discloses an image pickup device as claimed in claim 1, wherein said diaphragm has an oval shape having edges which are circular along the horizontal direction and linear along the vertical direction (e.g., Nishioka discloses that the diaphragm be configured in lateral extension such as an ellipse and rectangle wherein the rectangle has a shape that is linear along the vertical direction. Nishioka further discloses that it is known to construct a diaphragm with edges that are circular along the horizontal direction as is the case with the ellipse. Therefore it would have been obvious to utilize edges that are circular along the horizontal direction if necessary. Examiner notes that the Applicant has not indicated

Art Unit: 2615

that the edges being circular along the horizontal direction are critical to the function of the invention).

In regards to claim 3 see Fig. 1 of Hokari.

In regards to claims 8-10 see Examiners notes on the rejection of claims 1-3.

In regards to claim 15, 17, and 18 see Examiners notes on the rejections above.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian C. Genco who can be reached by phone at 571-272-7364 or by fax at 571-273-7364. The examiner can normally be reached on Monday thru Friday 8:30am to 4:30 pm.

Art Unit: 2615


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Groody can be reached at 571-272-7950. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the customer service office whose telephone number is 571-272-2600.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Brian C Genco
Examiner
Art Unit 2615

April 20, 2005


James J. Groody
Supervisory Patent Examiner
Art Unit-262 2615